

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows.

1. (currently amended) A connector for connecting a first spinal rod and a second spinal rod, comprising:

a housing component for connecting a first spinal rod and a second spinal rod, the first spinal rod supporting a first vertical region of a spine, the second spinal rod supporting a second vertical region of the spine other than the first vertical region of the spine, the housing component defining a first bore hole for receiving a portion of the first rod, the first bore hole extending along a first longitudinal axis and a second bore hole for receiving a portion of the second rod, the second bore hole extending along a second longitudinal axis that is parallel to the first longitudinal axis; and

a locking element for securing one of the first rod within the first bore hole and the second rod within the second bore hole,

wherein the first longitudinal axis is configured to be offset in a sagittal plane from the second longitudinal axis by a predetermined offset distance when the connector connecting the first and second spinal rods is implanted in a patient,

wherein the first bore hole is formed by a pair of opening holes extending along the first longitudinal axis and having centers which are offset along a central axis so that the first bore hole has a substantially oval cross-sectional configuration, one of the opening holes being sized to provide an interference fit between the housing component and the first spinal rod when the first spinal rod is inserted in the one of the opening holes.

2. (original) The connector of claim 1, wherein the predetermined offset distance is variable.

3. (original) The connector of claim 1, wherein the housing component comprises a first housing component defining the first bore hole and a second housing component movably coupled to the first housing component and defining the second bore hole.

4. (original) The connector of claim 3, wherein the first housing component includes a first set of external teeth on an outer surface thereof and the second housing component includes a second

set of external teeth on an outer surface thereof configured to interlock with the first set of teeth at a plurality of discrete positions.

5. (original) The connector of claim 3, wherein the second housing component includes a coupling rod extending in a direction that is transverse to the second bore hole and the first housing component includes a coupling hole configured to receive the coupling rod.

6. (original) The connector of claim 5, wherein the coupling rod includes a first set of teeth on an outside surface and the coupling hole includes a second set of teeth on an inside surface configured to interlock with the first set of teeth.

7. (original) The connector of claim 3, further comprising a clamping mechanism for securing the first housing component in a selected position relative to the second housing component.

8. (currently amended) A connector for connecting a first spinal rod and a second spinal rod, comprising:

a housing component for connecting a first spinal rod and second spinal rod, the first spinal rod supporting a first vertical region of a spine, the second spinal rod supporting a second vertical region of the spine other than the first vertical region of the spine, the housing component defining a first bore hole extending along a first longitudinal axis for receiving a portion of the first rod and a second bore hole extending along a second longitudinal axis that is non-parallel and non-perpendicular with the first longitudinal axis for receiving a portion of the second rod; and

a locking element for securing one of the first spinal rod within the first bore hole and the second spinal rod within the second bore hole,

wherein the first bore hole is formed by a pair of opening holes extending along the first longitudinal axis and having centers which are offset along a central axis so that the first bore hole has a substantially oval cross-sectional configuration, one of the opening holes being sized to provide an interference fit between the housing component and the first spinal rod when the first spinal rod is inserted in the one of the opening holes.

9. (original) The connector of claim 8, wherein the second longitudinal axis is adjustable relative to the first longitudinal axis.

10. (original) The connector of claim 8, wherein the housing component comprises a first housing component defining the first bore hole and a second housing component movably coupled to the first housing component and defining the second bore hole.

11. (original) The connector of claim 10, wherein the second housing component includes a coupling rod extending in a direction that is transverse to the second bore hole and the first housing component includes a coupling hole configured to receive the coupling rod.

12. (withdrawn) The connector of claim 8, further comprising a spherical bushing in said first bore hole for adjusting an angle of the first rod relative to the second longitudinal axis.

13. (withdrawn) The connector of claim 8, wherein the locking element comprises a top-loading set screw for securing both the first rod and the second rod.

14. (currently amended) A connector for connecting a first spinal rod and a second spinal rod, comprising

a first housing component defining a first bore hole for receiving a portion of the first rod, the first spinal rod supporting a first vertical region of a spine, the first bore hole extending along a first longitudinal axis; and

a second housing component coupled to the first housing component and defining a second bore hole extending along a second longitudinal axis that is parallel with the first longitudinal axis, the second bore hole being movable relative to the first bore hole for receiving a portion of the second rod, the second spinal rod supporting a second vertical region of the spine other than the first vertical region of the spine;

wherein, the coupled first housing and second housing connect the first and second rods,

wherein the first housing component includes a coupling rod extending into the second housing component and the second housing component includes a coupling hole receiving the coupling rod, the coupling hole extending transverse to the second bore hole,

wherein the coupling rod includes a groove formed on a surface of the coupling rod to seat the second spinal rod.

15. (original) The connector of claim 14, wherein the second housing component is movable relative to the first housing component to move the second bore hole relative to the first bore hole.

16. (original) The connector of claim 15, wherein the second housing component is rotatable relative to the first housing component.

17. (original) The connector of claim 15, wherein the second housing component is laterally movable relative to the first housing component.

18. (original) The connector of claim 15, wherein the second housing component is movable in a vertical direction relative to the first housing component.

19. (withdrawn) The connector of claim 14, further comprising a spherical bushing in said second bore hole for moving the second bore hole to adjust an angle of the second rod relative to the first rod.

20. (original) The connector of claim 14, wherein the first bore hole is configured to receive a cervical rod and the second bore hole is configured to receive a thoracic rod.

21. (withdrawn) A method of connecting a first spinal rod to a second spinal rod, comprising the steps of:

- inserting the first rod into a first bore hole of a rod connector;
- inserting the second rod into a second bore hole of the rod connector; and
- moving the second bore hole relative to the first bore hole.

22. (withdrawn) The method of claim 21, wherein the step of adjusting comprises adjusting an angle between the first bore hole and the second bore hole.

23. (withdrawn) The method of claim 21, wherein the step of adjusting comprises adjusting a distance between the first bore hole and the second bore hole.

24. (withdrawn) The method of claim 21, further comprising the step of:

coupling the first bore hole relative to the second bore hole after inserting the first and second rods.

25. (withdrawn) The method of claim 21, further comprising the step of implanting the rod connector.

26. (withdrawn) The method of claim 25, further comprising the step of adjusting the second bore hole relative to the first bore hole.

27. (currently amended) A connector for connecting a first spinal rod and a second spinal rod, comprising:

a housing component for connecting a first spinal rod and a second spinal rod, the first spinal rod supporting a first vertical region of a spine, the second spinal rod supporting a second vertical region of the spine other than the first vertical region of the spine, the housing component defining a first bore hole for receiving a portion of the first rod, the first bore hole extending along a first longitudinal axis and a second bore hole for receiving a portion of the second rod, the second bore hole extending along a second longitudinal axis that is parallel with the first longitudinal axis; and

a locking element for securing one of the first spinal rod within the first bore hole and the second spinal rod within the second bore hole,

wherein the first longitudinal axis is configured to be offset from the second longitudinal axis in a first plane by a first predetermined offset distance and by a second predetermined offset distance in a second plane that is perpendicular to the first plane,

wherein the first bore hole is formed by a pair of opening holes extending along the first longitudinal axis and having centers which are offset along a central axis so that the first bore hole has a substantially oval cross-sectional configuration, one of the opening holes being sized to provide an interference fit between the housing component and the first spinal rod when the first spinal rod is inserted in the one of the opening holes.

28. (currently amended) A connector for connecting a first spinal rod and a second spinal rod, comprising:

a housing component for connecting a first spinal rod and a second spinal rod, the first spinal rod supporting a first vertical region of a spine, the second spinal rod supporting a second vertical region of the spine other than the first vertical region of the spine, the housing component having a top surface, a bottom surface, a front surface and a back surface, the housing component defining a first bore hole for receiving a portion of the first rod, the first bore hole extending from the front surface to the back surface along a first longitudinal axis and a second bore hole for receiving a portion of the second rod, the second bore hole extending from the front surface to the back surface along a second longitudinal axis; and

a locking element inserted through the top surface for securing one of the first spinal rod within the first bore hole and the second spinal rod within the second bore hole,

wherein the first bore hole is offset from the second bore hole, such that said first bore hole is closer to the bottom surface of the housing than the second bore hole,

wherein the first bore hole is formed by a pair of opening holes extending along the first longitudinal axis and having centers which are offset along a central axis so that the first bore hole has a substantially oval cross-sectional configuration, one of the opening holes being sized to provide an interference fit between the housing component and the first spinal rod when the first spinal rod is inserted in the one of the opening holes.